

Application No.: 10/501,452
Art Unit: 1796

Amendment Under 37 C.F.R. §1.111
Attorney Docket No.: 042586

REMARKS

Claims 1 and 3-16 are currently pending.

I. The Rejection under 35 U.S.C. 112

Claims 1, 3-10 and 16 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement.

The Examiner's position is that the term "HOCF3AB" is not known in the art as "2,2-bis(3- amino-4-hydroxyphenyl)hexafluoropropane". Therefore, the Examiner's position is that said term does not provide support for the newly claimed compound.

The Examiner also notes that page 29, lines 19 to 20, have not been amended to correct Applicants' noted error.

Applicants' specification, page 29, has been corrected as requested by the Examiner. The specification of the instant application contains the term "HOCF3AB". However, it inadvertently referred to the wrong compound. Further, the "wrong compound" (2,2-bis[4-(4-aminophenoxy)phenyl]hexafluoropropane) for "HOCF3AB" is also listed with a different, and correct, abbreviation "HF-BAPP". See Applicants' specification, page 5, line 21-22, and page 1, lines 13-14. Thus an obvious error occurred. Additionally, the correction is also obvious. Please also see the executed Declaration Under 37 C.F.R. §1.132, filed concurrently herewith, by the Inventor, Xingzhou JIN, explaining the circumstances and the meaning of the abbreviations.

Applicants wish to note that similar changes were filed with the European Patent Office. The European Patent Office has accepted the amendment and has granted a patent to the corresponding application.

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Applicants respectfully submit that the specification as originally filed provides support for the specification and claims as pending and Applicants request that the Examiner reconsider and withdraw the written description rejection.

II. The Rejection under 35 U.S.C. 112

Claims 5-8, 14 and 15 are rejected under 35 U.S.C. 112, second paragraph, as allegedly being indefinite.

In claims 5-8, the Examiner states that it is unclear as to whether the “at least one solvent” is referring to the solvent (claim 1, line 3) used to dissolve the polyimide or to the solvent (claim 1, line 5) used to synthesize the polyimide. In claim 14, the Examiner states that it is unclear as to what is meant by a “poor” solvent. In claim 14, lines 7 and 8, the Examiner states that it is unclear as to what is meant by “a” reaction product.

Claims 5-8 and 14 have been amended for clarity. In claim 5, the spelling of cyclohexanon and methylcyclohexanon has been corrected. Additionally, some other typographical errors have been corrected in the claims. It is respectfully submitted that Applicants’ claims are clear and definite and it is requested that the rejection under 35 U.S.C. §112 be reconsidered and withdrawn.

III. The Rejections under 35 U.S.C. 102/103

Claims 11 and 12 are rejected under 35 U.S.C. 102(e) as allegedly anticipated by or, in the alternative, under 35 U.S.C. 103(a) as allegedly obvious over US 6,627,377 (Itatani et al.).

Claims 1, 3, 5-12 and 16 are rejected under 35 U.S.C. 102(b) as allegedly anticipated by or, in the alternative, under 35 U.S.C. 103(a) as allegedly obvious over US 5,340,684 (Hayase et

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al.).

Claims 1, 3-10 and 13-16 are rejected under 35 U.S.C. 103(a) as allegedly being unpatentable over Itatani et al. in view of Hayase et al.

Claims 4 and 13-15 are rejected under 35 U.S.C. 103(a) as allegedly being unpatentable over Hayase et al. in view of Itatani et al. and U.S. 5,502,143 (Oie et al.).

Applicants respectfully submit that the present invention is not anticipated by or obvious over the disclosures of Hayase et al and Itatani et al, alone or in view of the secondary references, and request that the Examiner reconsider and withdraw these rejections in view of the following remarks.

The invention of the instant application introduces into the main chain of polyimide a specific diamine having a phenolic hydroxyl group.

By contrast, both Itatani et al. and Hayase use NMP (N-methylpyrrolidone) as the synthesis solvent. See, for example, Examples 1-18 of Itatani et al and Example 1 of Hayase et al. The ensuing polyimide composition has high moisture absorption properties, giving rise to whitening as a result of the water absorption. See Applicants' specification, page 1, line 20 to page 2, line 24.

Itatani et al also uses a mixture of the organic solvent with water as a developer following irradiation for formation of images. See, for example, Example 10, where the developer was a mixture of 30 g of aminoethanol, 70 g of N-methylpyrrolidone and 30 g of water.

By contrast, the polyimide of the invention has the unexpected feature of being soluble in an alkaline aqueous solution.

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That is, by being soluble in alkali, it is possible to use an alkaline solution as a developer. As set forth in Applicants' specification: "The developer used herein, for instance, includes sodium hydroxide, potassium hydroxide, and tetramethylammonium hydroxide" (page 17, lines 23 to 27). As a result, the polyimide composition can be developed with a developer that can easily be disposed, and development operation is facilitated. Thus, Applicants' invention can provide an unexpectedly photosensitive polyimide, which is an unobvious improvement to the industry.

For the above reasons, it is respectfully submitted that the subject matter of claims 1 and 3-16 is neither taught by nor made obvious from the disclosures of Hayase et al and Itatani et al, alone or in view of the secondary references, , and it is requested that the rejections under 35 U.S.C. §102 and §103 be reconsidered and withdrawn.

IV. Conclusion

In view of the above, Applicants respectfully submit that their claimed invention is allowable and ask that the rejections under 35 U.S.C. §102 and the rejections under 35 U.S.C. §103 be reconsidered and withdrawn. Applicants respectfully submit that this case is in condition for allowance and allowance is respectfully solicited.

If any points remain at issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the local exchange number listed below.

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If this paper is not timely filed, Applicants respectfully petition for an appropriate extension of time. The fees for such an extension or any other fees that may be due with respect to this paper may be charged to Deposit Account No. 50-2866.

Respectfully submitted,
WESTERMAN, HATTORI, DANIELS & ADRIAN, LLP



Lee C. Wright
Attorney for Applicants
Registration No. 41,441
Telephone: (202) 822-1100
Facsimile: (202) 822-1111

LCW/af